



# **The Michigan ENHANCE 911 Grant Project**

GIS Technical Advisory Committee  
Michigan NENA Conference  
May 24, 2011

# Agenda

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- ENHANCE 9-1-1 Grant Background
- Perspectives about GIS and 9-1-1
- Overview of GIS and 9-1-1 today
- Overview of GIS and NG9-1-1
- GIS Project Tasks Overview and Update
- Open Discussion

# ENHANCE 9-1-1 Grant

- ◆ History
- ◆ Background
  - Act in place in 2004
  - Funds authorized, but not appropriated until 2009
- ◆ June 2009 announcement
- ◆ June 2009 SNC approval of application
- ◆ August 2009 application due
- ◆ Sept 2009 award announced of \$1,699,999
  - \$1,108,704 base
  - \$591,295 supplemental

# ENHANCE 9-1-1 Grant

- ◆ Terms of the grants:
  - Must be for wireless or NG9-1-1 project
  - Awards only given to states for state coordination/oversight/distribution
  - Projects must have broad impact
  - Cannot use state or locally collected 9-1-1 funds for non-911 purposes
  - 50/50 matching funds, match cannot be federal dollars
  - Match came from CMRS funds under HB 5622, enacted in December 2010.
  - Must be completed by September 30, 2012

# Why GIS?

- ◆ Broad proposal that met with grant criteria:
  - Some states already had projects to propose
    - Feasibility studies
    - Phase II completion
    - Regional IP-911 projects
    - Addressing/Mapping
  - Some states didn't qualify for funding or have resources to manage a project.
  - Looked for a project that had potential to benefit all PSAPs.
  - Michigan already had feasibility study underway and would tie in with work we already doing
  - Met with criteria of state 9-1-1 plan to move towards NG-911

# What is the project NOT about?

- ◆ Replacing the local 9-1-1 GIS data systems and making the state responsible for all PSAP GIS data
- ◆ Collecting data for the state to resell to other parties to generate revenue
- ◆ For use to create a single statewide CAD or PSAP
- ◆ Creating a platform to non-public safety purposes

# If NG-911 is not here yet, why are we spending all this time and money now?

- ◆ The project can be used for wireless 9-1-1 now.
- ◆ Virtual 9-1-1 projects and PSAP back-up systems can utilize this info prior to NG-911
- ◆ The grant will pay for something now that will need to be done, grants may not be there in the future
- ◆ Help with some costs for counties that may not have systems in place
- ◆ Prepare Michigan for future NG-911
- ◆ Facilitates collaborative ownership, rather than islands of independently purchased systems

# Formation of the TAC:

- ◆ Established as a technical advisory committee to the Local and State Cross Boundary Technology Steering Committee
  - Local representation from the 9-1-1, IT, and GIS communities to provide first hand knowledge and experience to the 9-1-1 GIS Grant Project
  - Will make recommendations on project direction to the Local and State Cross Boundary Technology Steering Committee



# Project Organization Overview

- ◆ Project Sponsor

Harriet Miller-Brown – Michigan 9-1-1 State Administrator

- ◆ DTMB Project Staff (CSSTP)

Eric Swanson - CSSTP, Project Sponsor, Director

Laura Blastic – CSSTP, Project Manager, Geo-Framework  
Services Manager

Paul Harmon – CSSTP, Communications Liaison

Mathi Ramachandran – CSSTP, Data Architect

John Clark – CSSTP, GIS Solutions Architect

Mark Holmes - L.R. Kimball

# Project Organization Overview

## Technical Advisory Committee (TAC)

### ➤ 9-1-1

- Mike Muskovin, Ottawa County
- Mike Szor, Alpena County
- Phyllis Fuller, Barry County
- Harriet Miller-Brown, State 9-1-1 Office

### ➤ IT

- Ron Plamondon, Leelanau County
- Dawn Siegel, Oakland County
- Tom Shewchuk, Ingham County

### ➤ GIS

- Scott Ambs, Jackson County
- Chris Cantrell, Midland County
- Nathan Fazer, Eastern UP Planning Region
- Eric Swanson, CSSTP

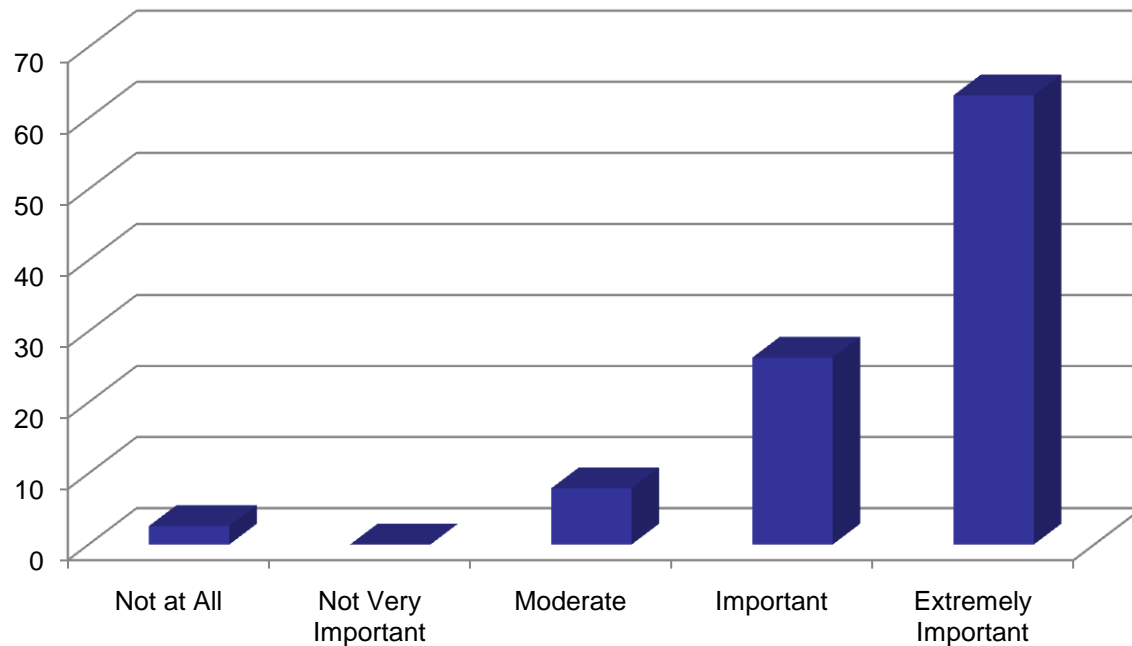
# Role of the TAC:

- ◆ Provide local insight and collaboration as project develops
  - Project documents (e.g. Charter, MOA's)
  - Develop technical standards
  - Develop communication and outreach plan
  - Initial data assessments

# Perspectives about GIS and 9-1-1

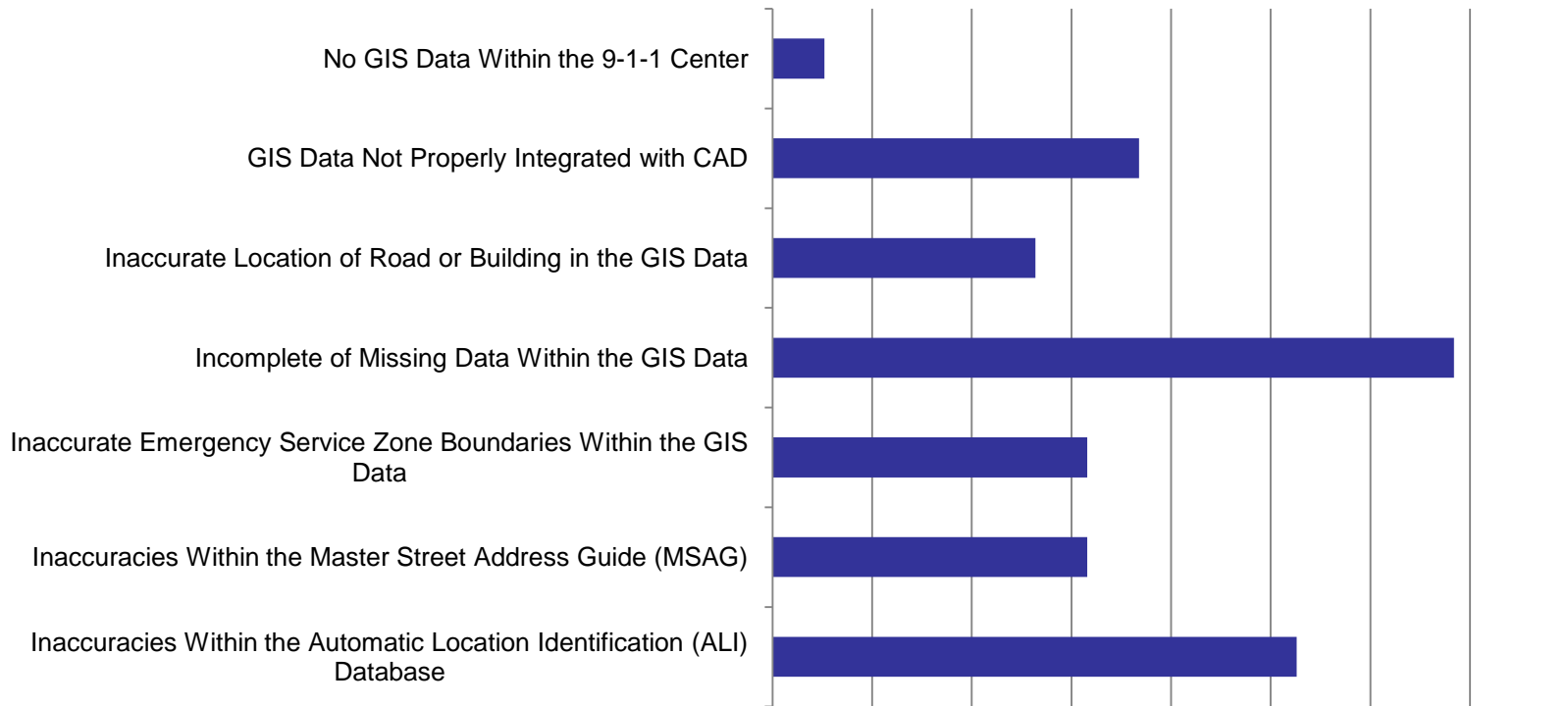
# Overview of GIS and 9-1-1 Today

**In General, How Important is GIS Within Your Operation?**



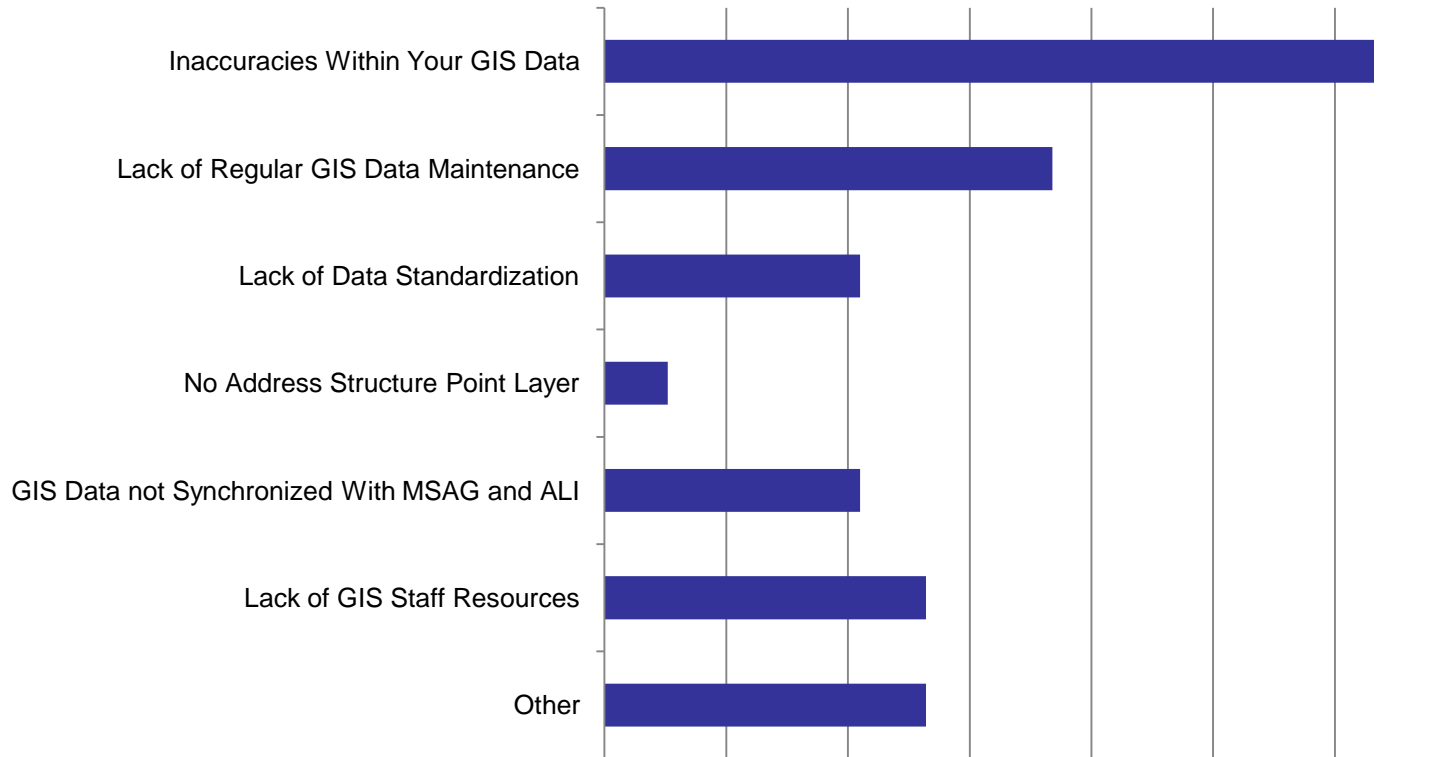
# Overview of GIS and 9-1-1 Today

**Within the past 12 months, have you experienced delays in response or misrouted response because of any of the following related to GIS or other databases?**



# Overview of GIS and 9-1-1 Today

**Of the following potential issues, which concerns you the most?**



# Overview of GIS and 9-1-1 Today

## Automatic Location Identification (ALI) Database

814-555-7777

814-555-7777

John Doe

111 Maple Ln

Anytown, USA

ESN 123

Fire: Station 1

Police: PD 1

EMS: EMS 4

ESN 123

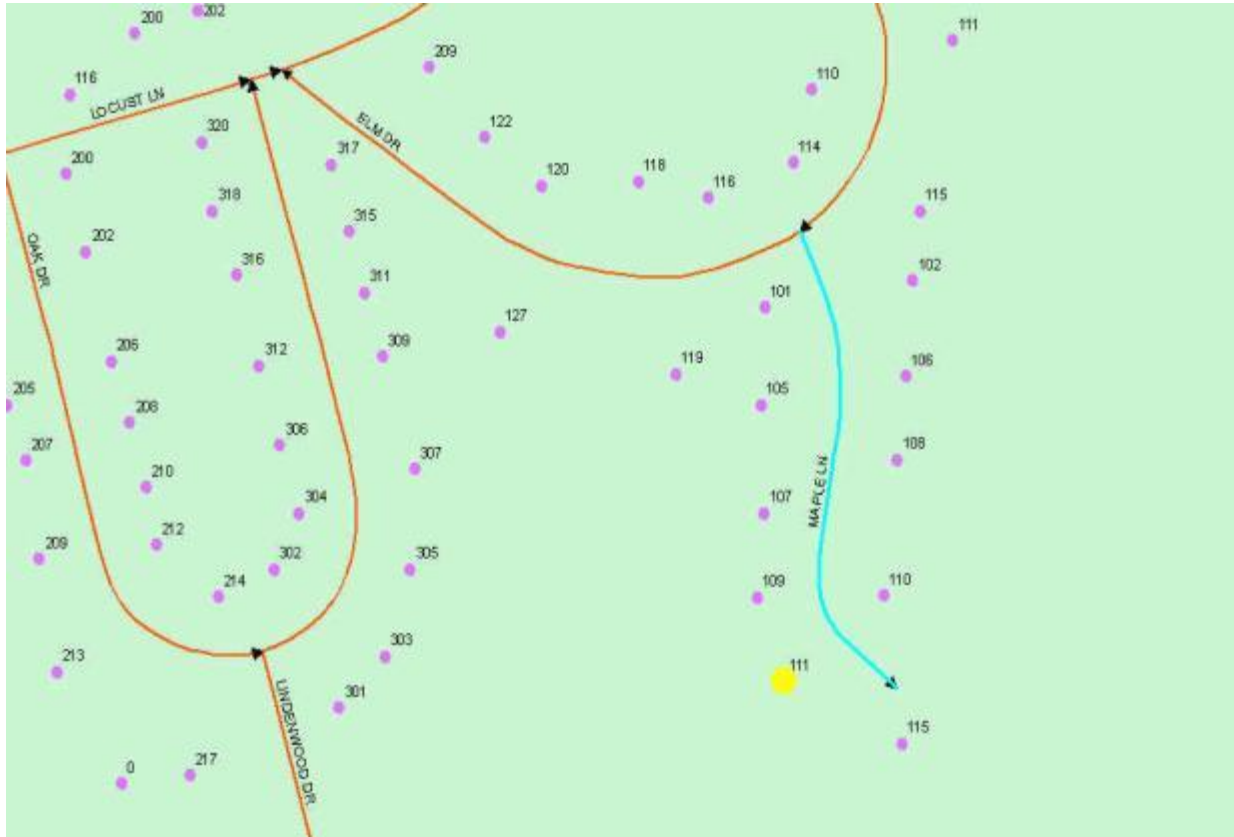
PHONE	HOUSENO	HOUSESUF	STREET	COMMUNITY	STATE	ESN	CUSTOMER
814-555-7474	400		9TH ST	ANYTOWN	PA	123	J SMITH
814-555-7777	111		MAPLE LN	ANYTOWN	PA	123	JOHN DOE
814-555-1234	811		11TH ST	ANYTOWN	PA	123	LARRY GREENE
814-555-2345	801		TERRACE BLVD	ANYTOWN	PA	234	MIKE JONES
814-555-1277	432		WARREN AVE	ANYTOWN	PA	456	ACME IND
814-555-7643	716		ARMSTRONG PL	ANYTOWN	PA	123	FACTORY 2
814-555-9876	123		WARREN AVE	ANYTOWN	PA	123	JAMES WOOD
814-555-8532	510		7TH ST	ANYTOWN	PA	123	PHIL BLACK
814-555-8712	706		OAKHILL LN	ANYTOWN	PA	123	BUD SMITH
814-555-5678	521		WOODWARD AVE	ANYTOWN	PA	765	JOE COFFEE
814-555-567	456		WOODWARD AVE	ANYTOWN	PA	765	JANE DOE

## Master Street Address Guide (MSAG)

PRE	STREETNAME	STRE	POST	LOW	HIGH	SIDE	COMMUNITY	STATE	ESN
N	6TH	ST		376	398	B	ANYTOWN	PA	020
	MAPLE	LN		100	156	B	ANYTOWN	PA	123
N	WARREN	AVE		700	798	B	ANYTOWN	PA	020
	WOODWARD	AVE		1100	1198	B	ANYTOWN	PA	020
N	6TH	ST		614	698	B	ANYTOWN	PA	020
	HOSE HOUSE	ALY		401	499	B	ANYTOWN	PA	020
	HOSE HOUSE	ALY		301	399	B	ANYTOWN	PA	020
	HOSE HOUSE	ALY		299	299	B	ANYTOWN	PA	020
N	5TH	ST		700	706	B	ANYTOWN	PA	020
N	5TH	ST		628	698	B	ANYTOWN	PA	020
N	5TH	ST		600	626	E	ANYTOWN	PA	020



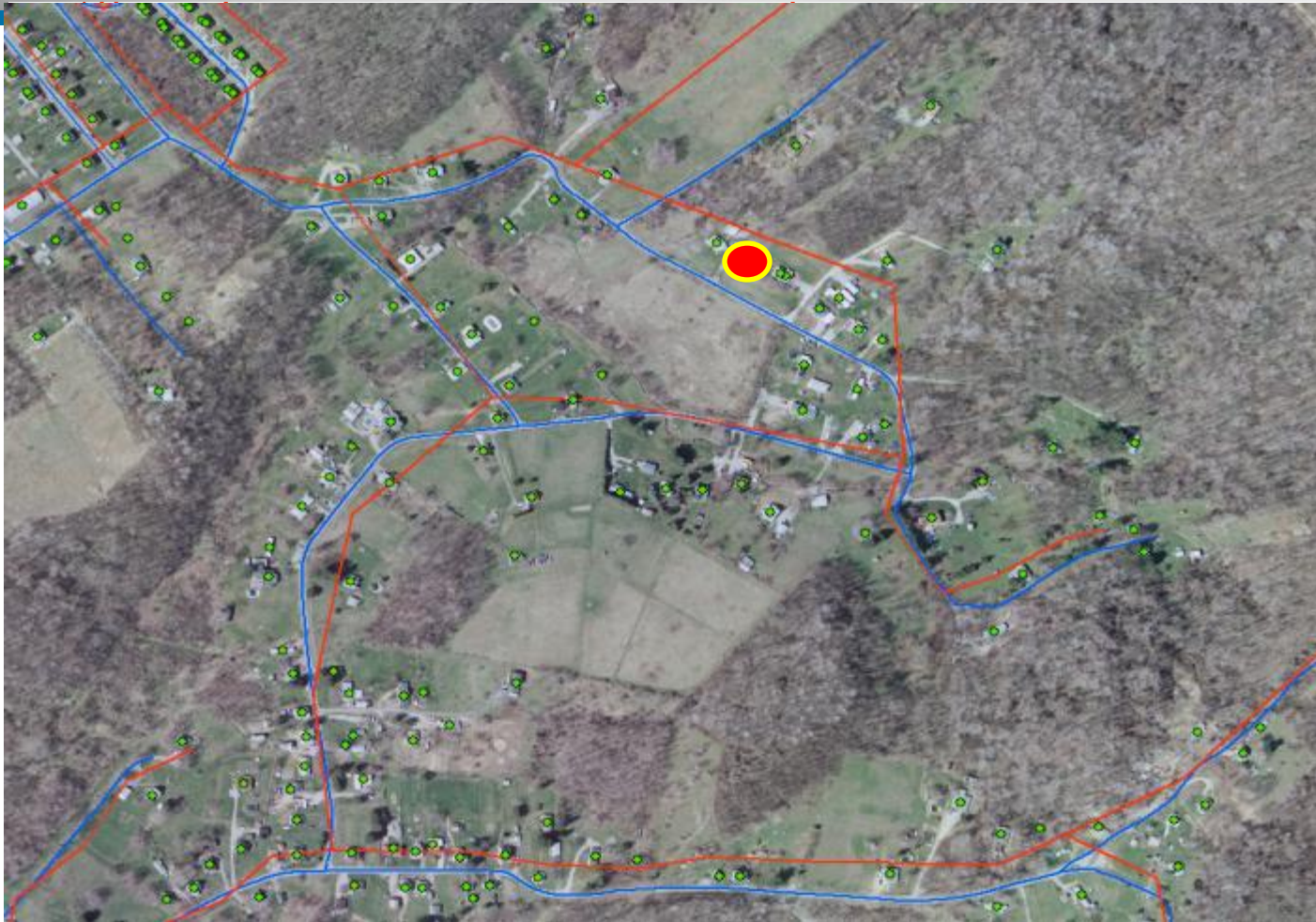
# Overview of GIS and 9-1-1 Today



# Overview of GIS and 9-1-1 Today

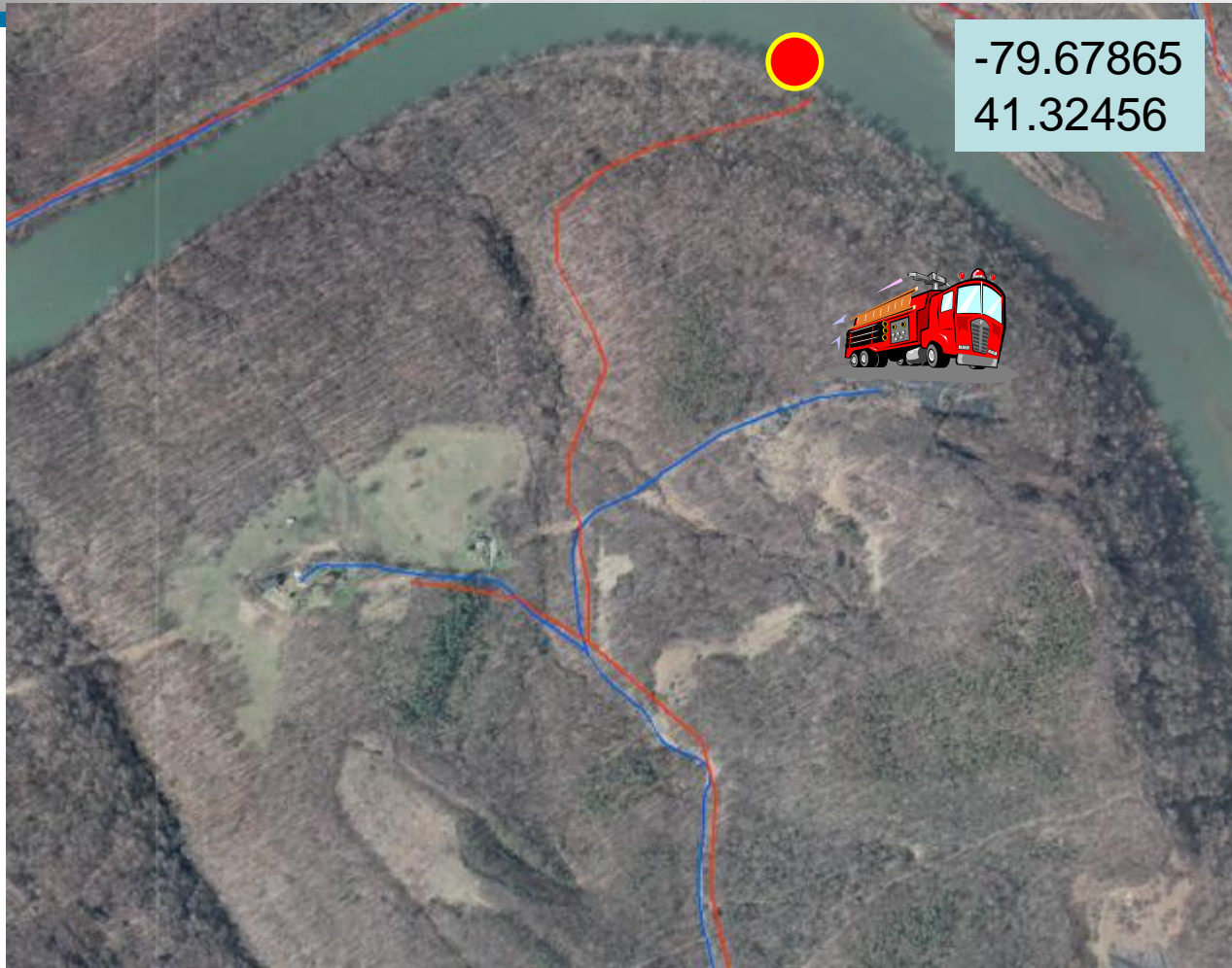
- ◆ Plays an important role in providing location to 9-1-1 call takers on mapping displays in PSAP, especially during wireless calls
- ◆ Importance of accurate and complete GIS data effective decision-making by call takers – trust in the data
- ◆ What if GIS data is incorrect or incomplete?
  - Incorrect routing of emergency responders
  - Increases response time
  - Lives in jeopardy – every second counts

# Issues Today - Accuracy

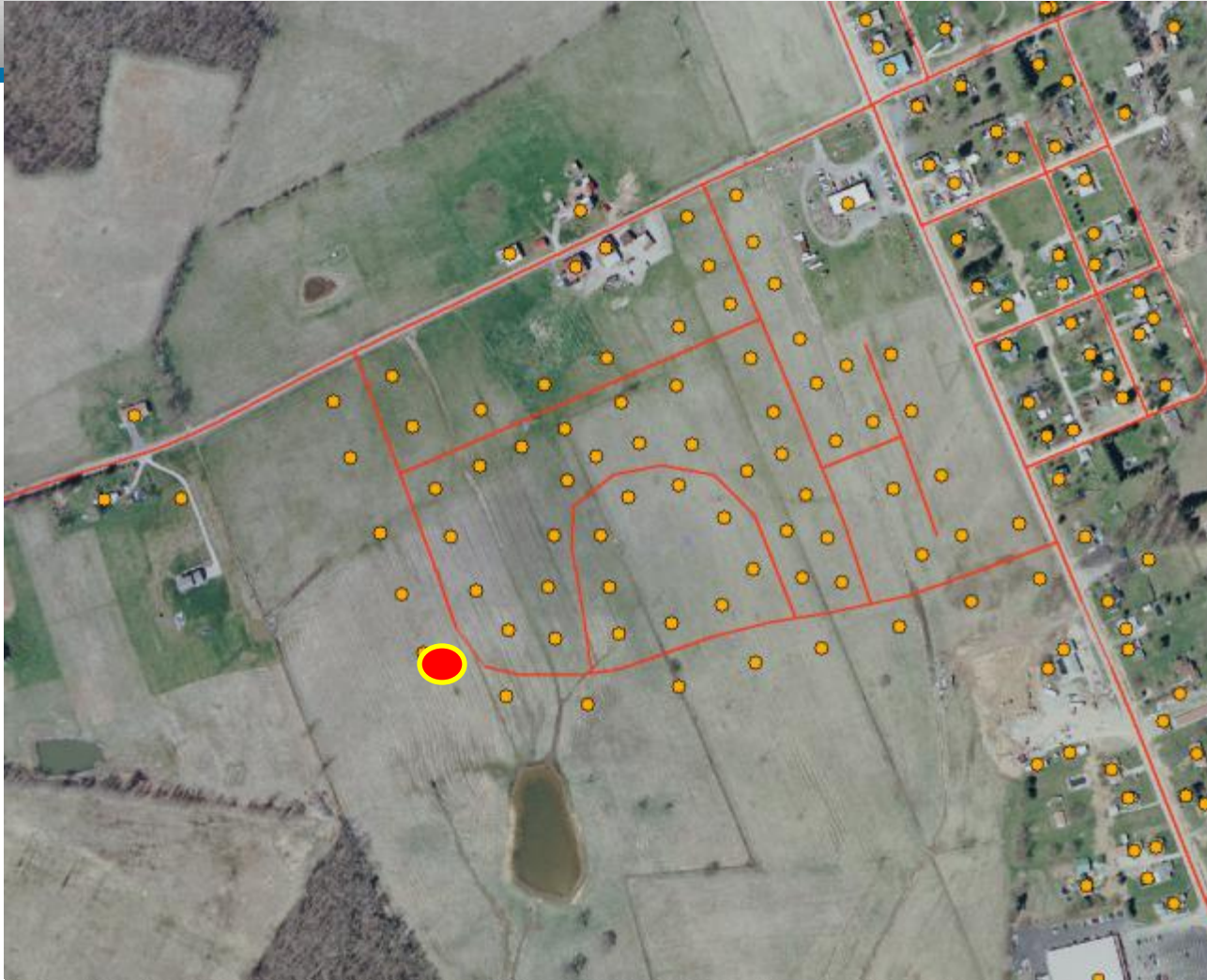




# Issues Today – Accuracy



# Issues Today – Current Data

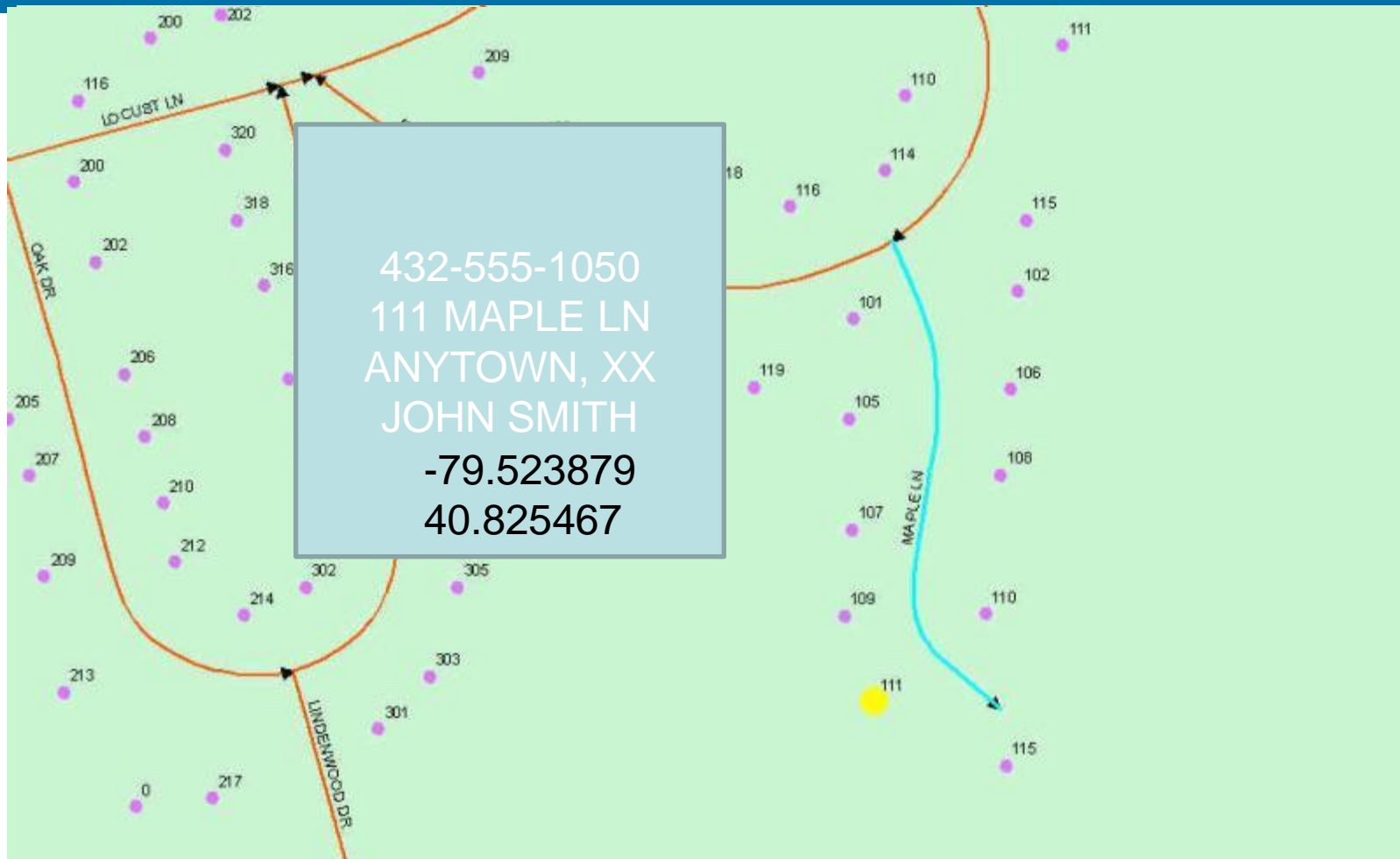


# GIS in NG9-1-1

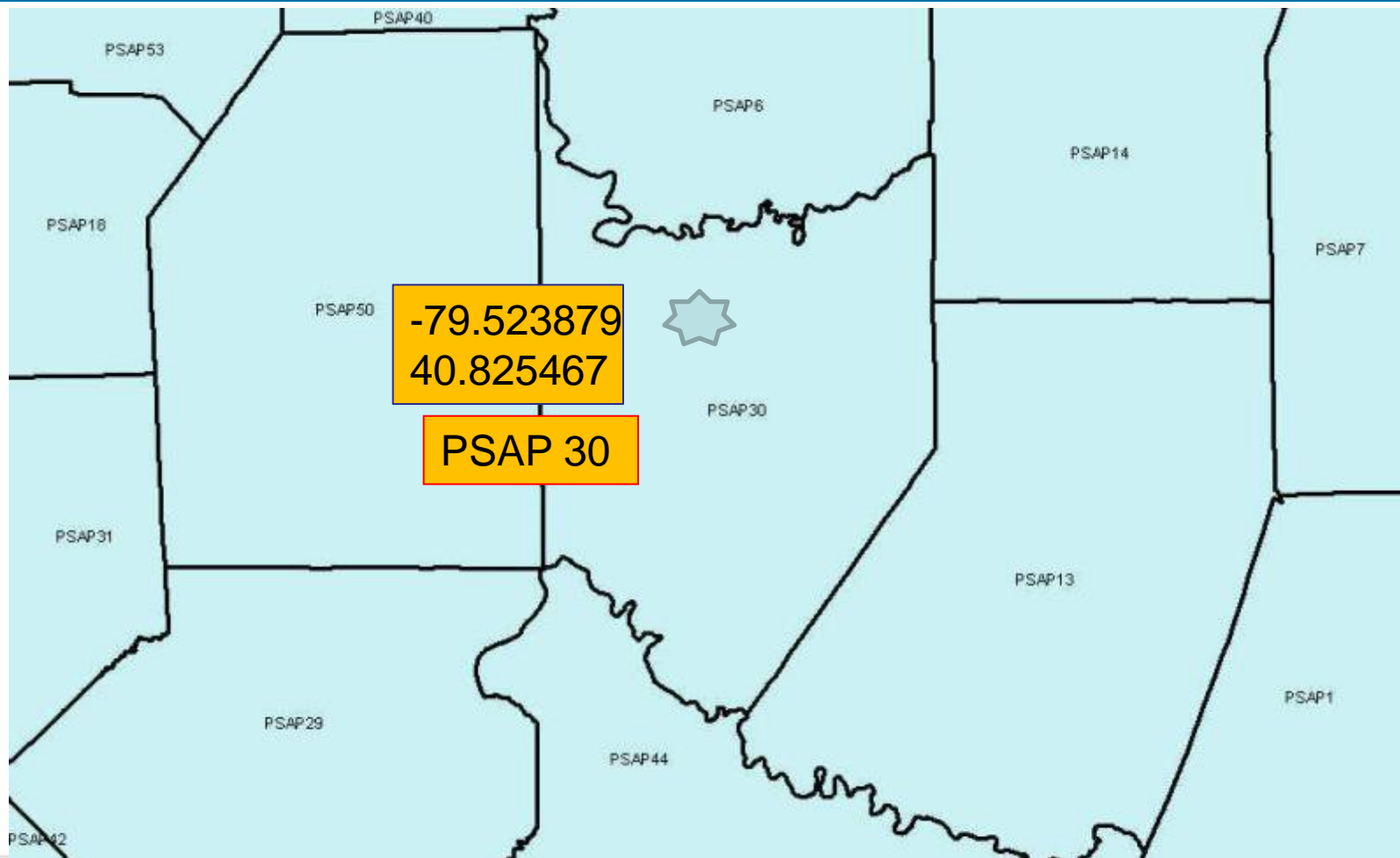
- ◆ GIS plays crucial role in NG9-1-1 call routing - ECRF
- ◆ Routing database is GIS data centric
- ◆ Accuracy of GIS data is paramount
- ◆ Shared data – coordination
- ◆ 9-1-1 authority is responsible for the data
- ◆ Location is delivered with call
- ◆ Location is pre-validated using GIS data - LVF



# Call Routing

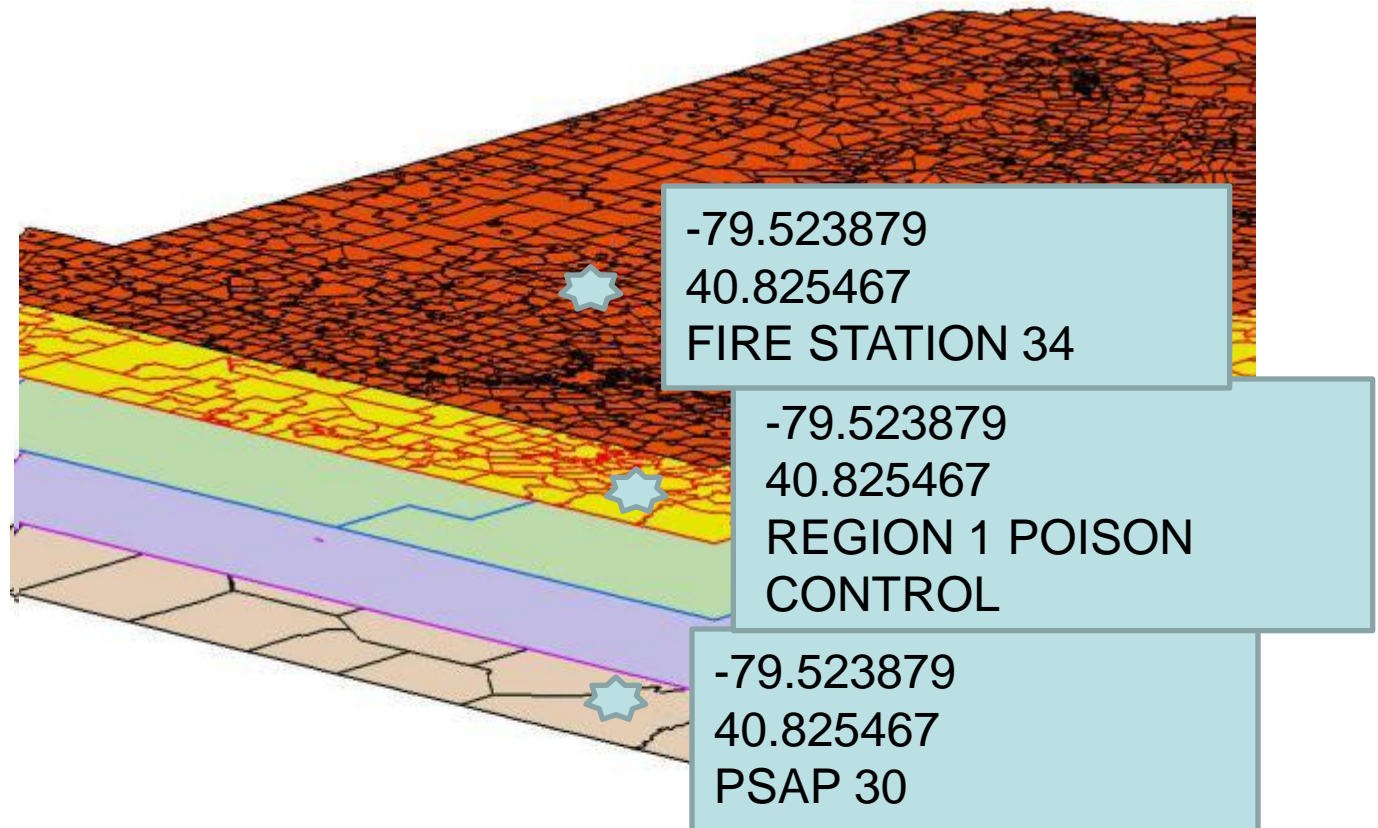


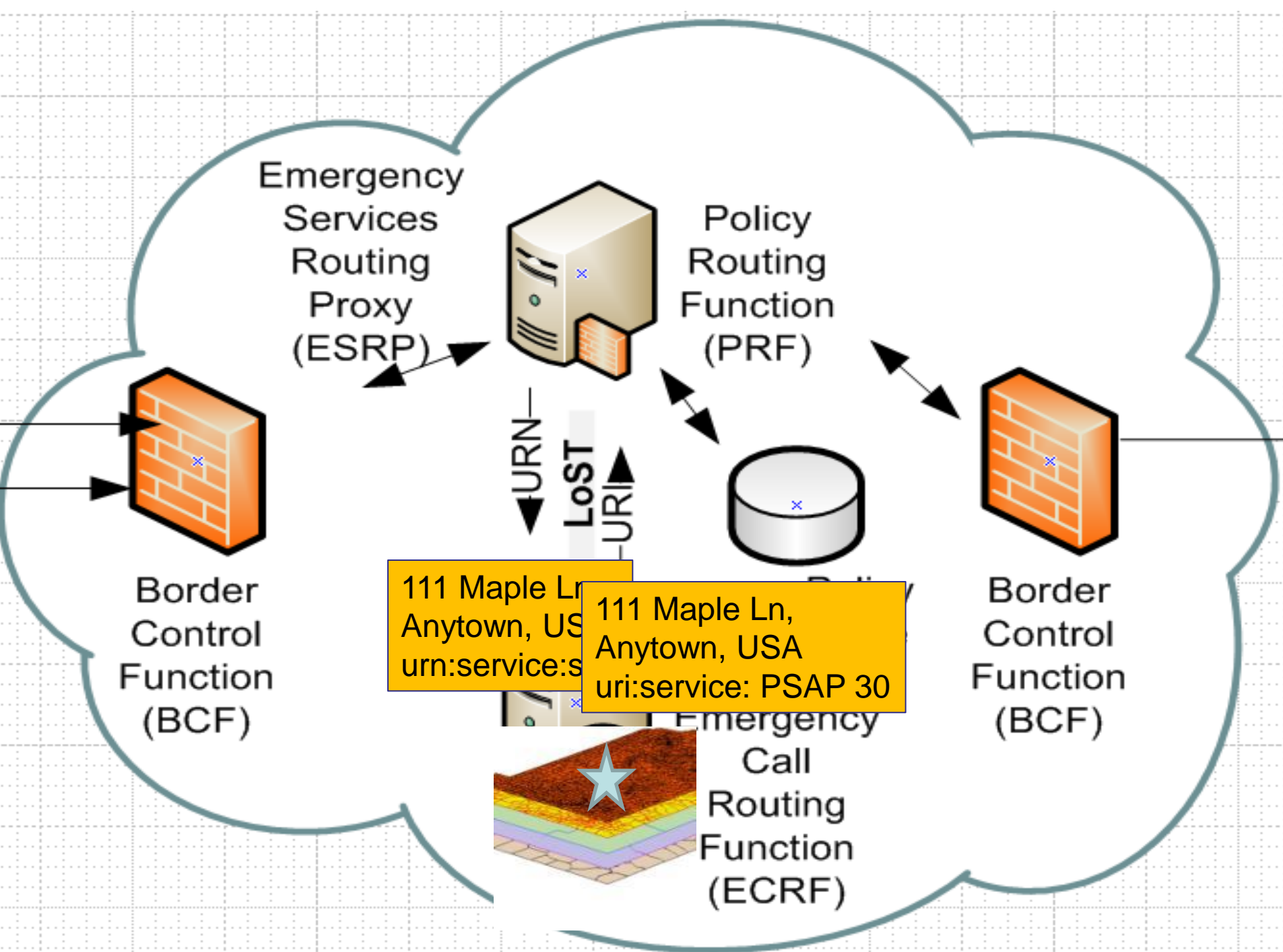
# Call Routing





# Point in Polygon Location Query





# Project Tasks Overview

- ◆ Initial Assessment and Data Development Plan
- ◆ Community Outreach
- ◆ Statewide 9-1-1 Database Design
- ◆ Develop and Implement Database and Application Architecture
- ◆ Develop Statewide PSAP Boundary Layer
- ◆ Develop Complete Statewide GIS Road Centerline and an Initial Point Address Layers
- ◆ Maintenance Plan and Workflows Implementation

# Data Flow to 9-1-1 GIS Database

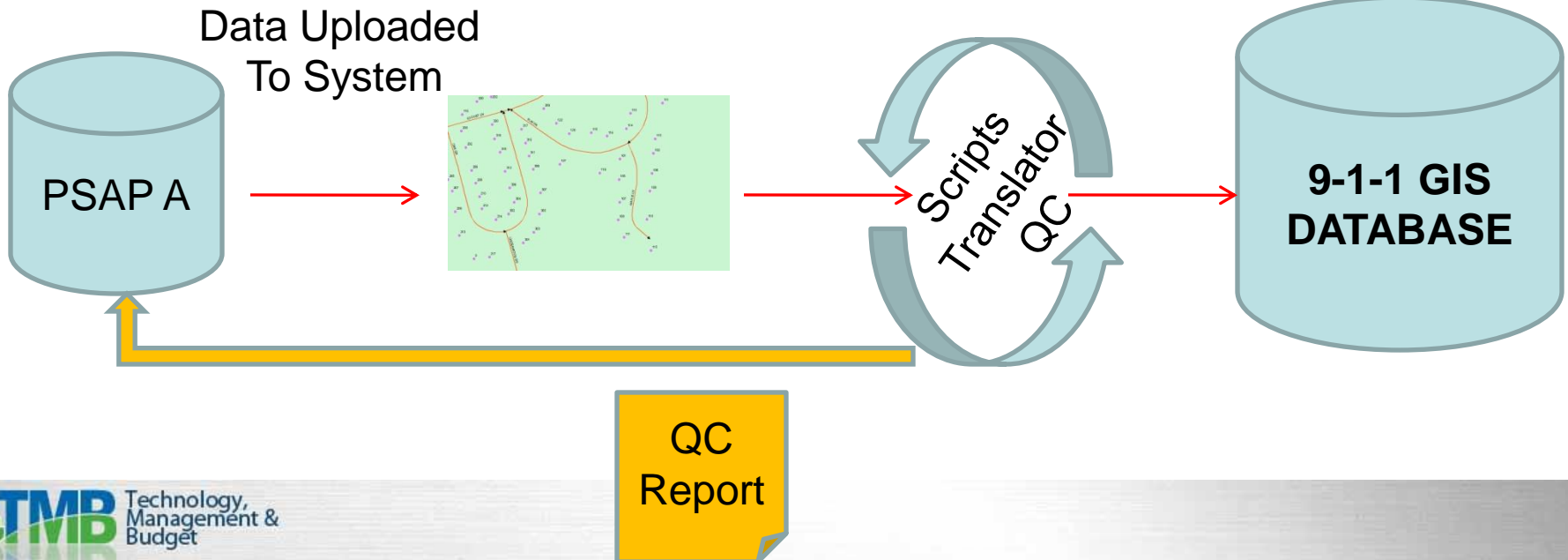
E.G. Local GIS Design

LEFT_LOW	101
LEFT_HIGH	159
RIGHT_LOW	100
RIGHT_HIGH	158
PRE_DIR	N
STREETNAME	ANYSTREET
STREET_TYPE	AVE
POST_DIR	<null>

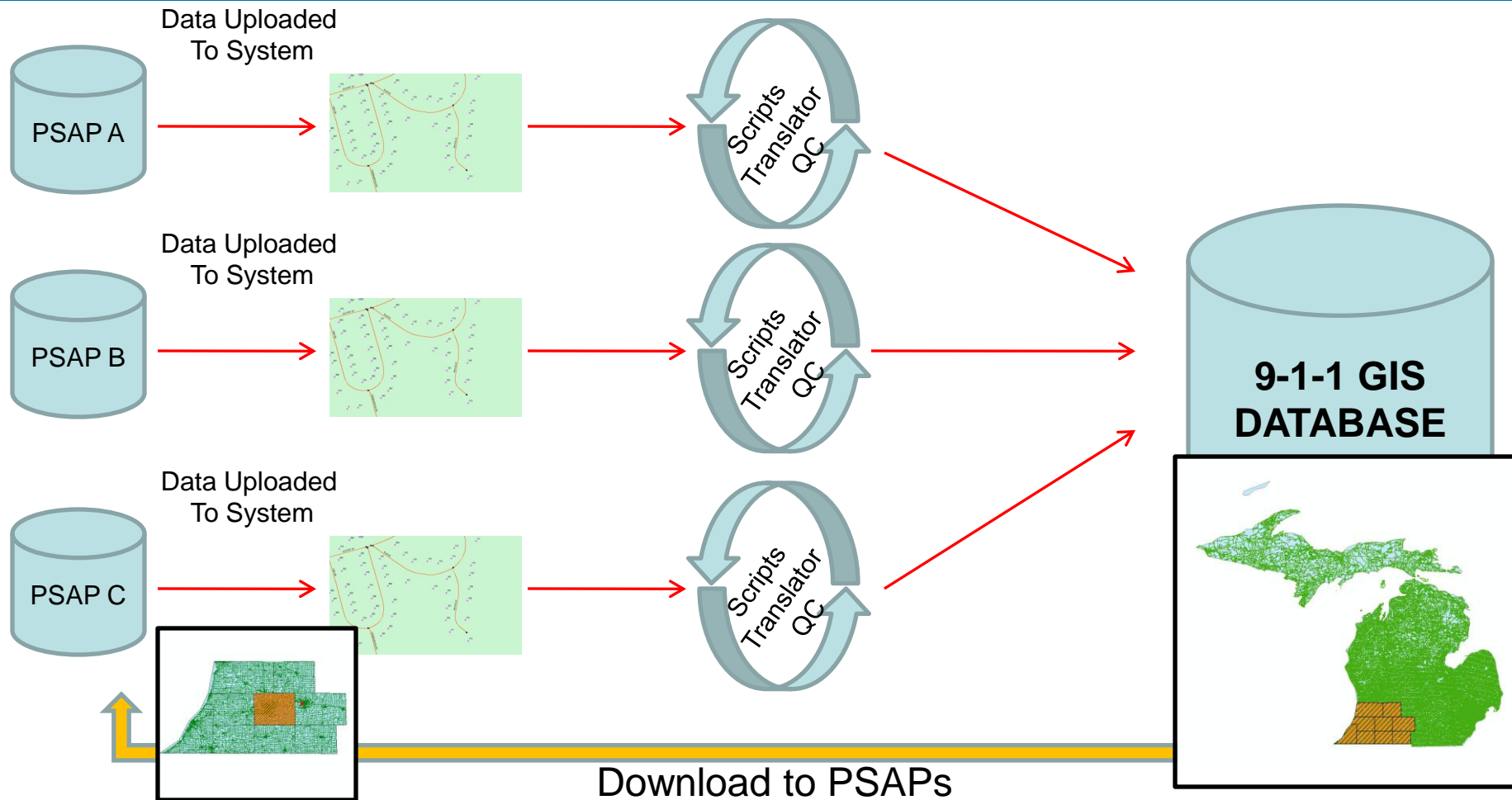
E.G. 9-1-1 GIS Database Design

LLO	101
LHI	159
RLO	100
RHI	158
PRD	N
STN	ANYSTREET
STS	AVE
POD	<null>

SCRIPTS

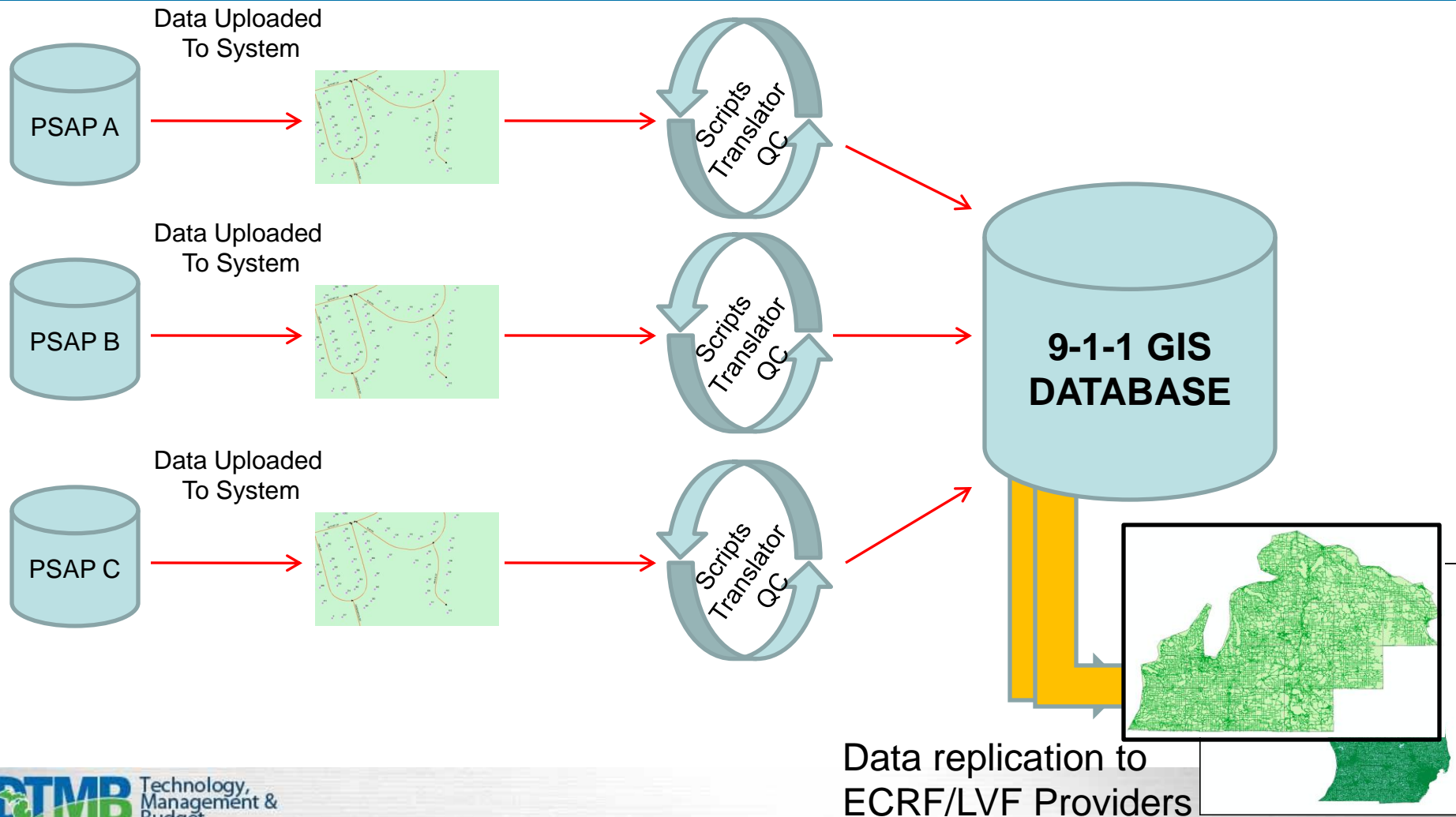


# Data Interoperability





# Data Provisioning for NG 9-1-1



# Project Update

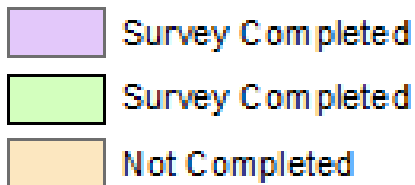
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- ◆ Developed Project Charter
- ◆ Conducted a GIS Assessment for each PSAP
- ◆ Developing Memorandum of Agreements (MOA) and Data Sharing Agreements
- ◆ Drafting Initial Database Standards
- ◆ Forming Initial System Requirements
- ◆ Planning Future Community Outreach

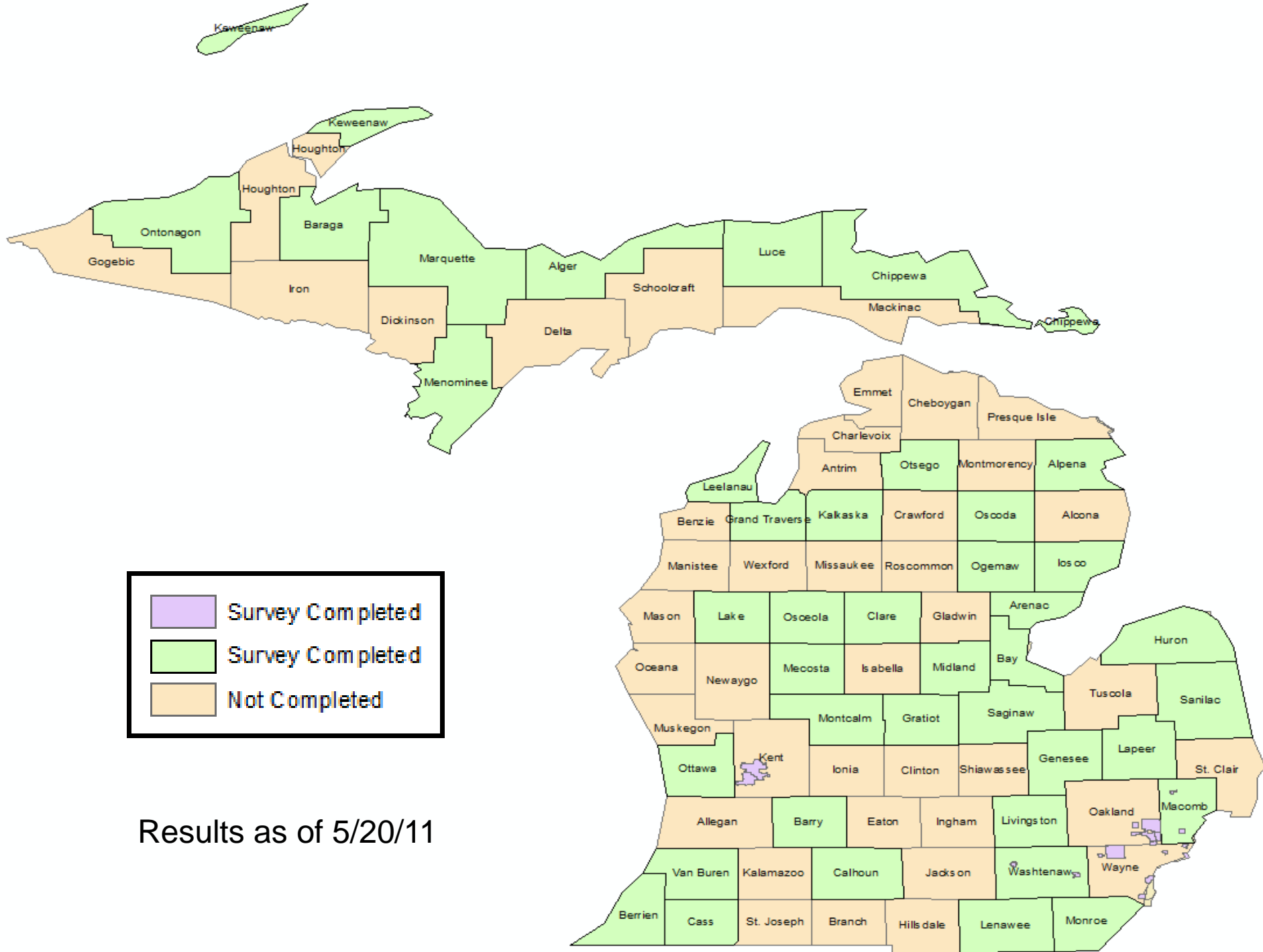
# 9-1-1 GIS Survey

- ◆ Get a current snapshot of GIS/9-1-1 systems today
- ◆ Sent to PSAP Managers/Directors and County 9-1-1 Coordinators
- ◆ Collaborate with GIS resources to fill out survey
- ◆ Survey will guide the planning of the project



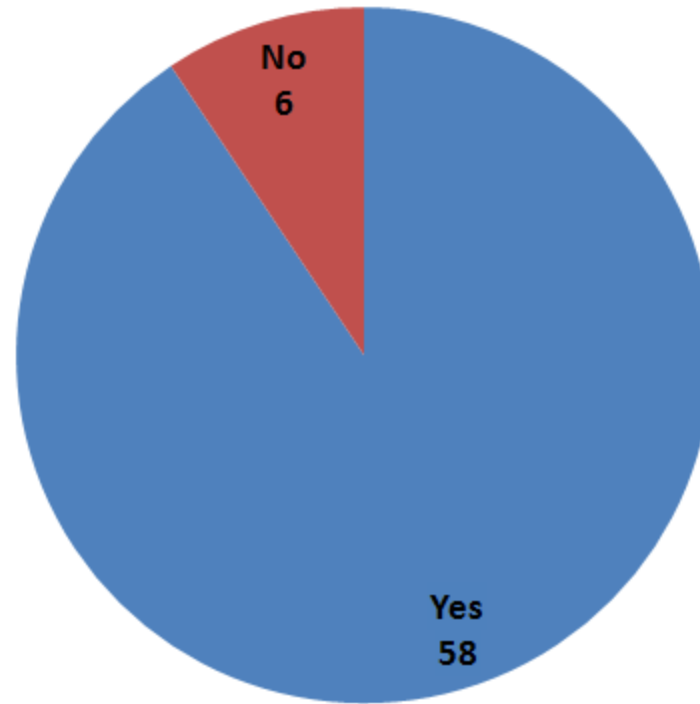


## Results as of 5/20/11



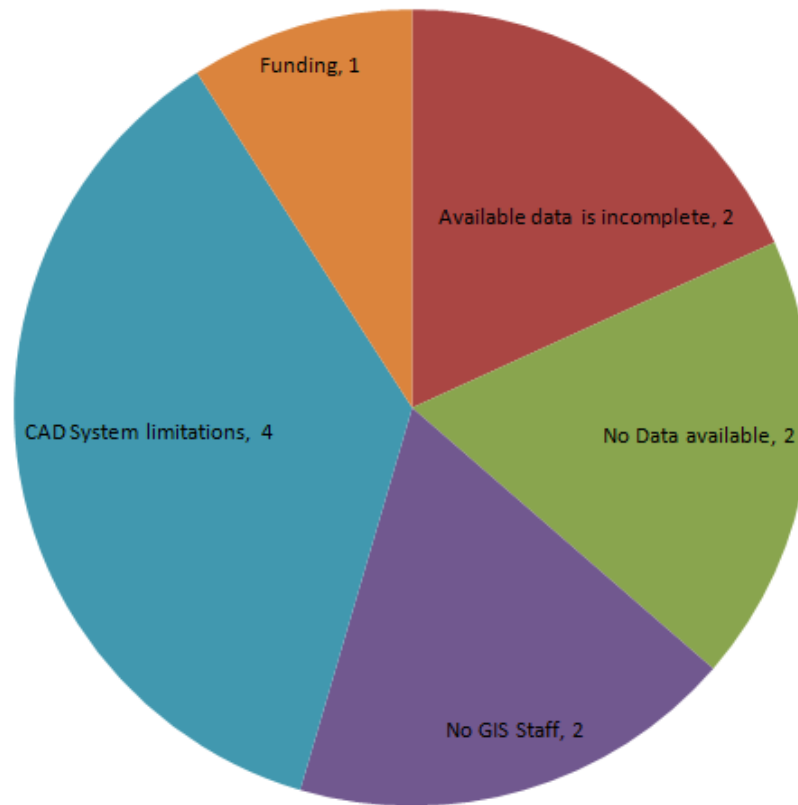
# 9-1-1 GIS Survey

Does Your PSAP utilize GIS data for location purposes?

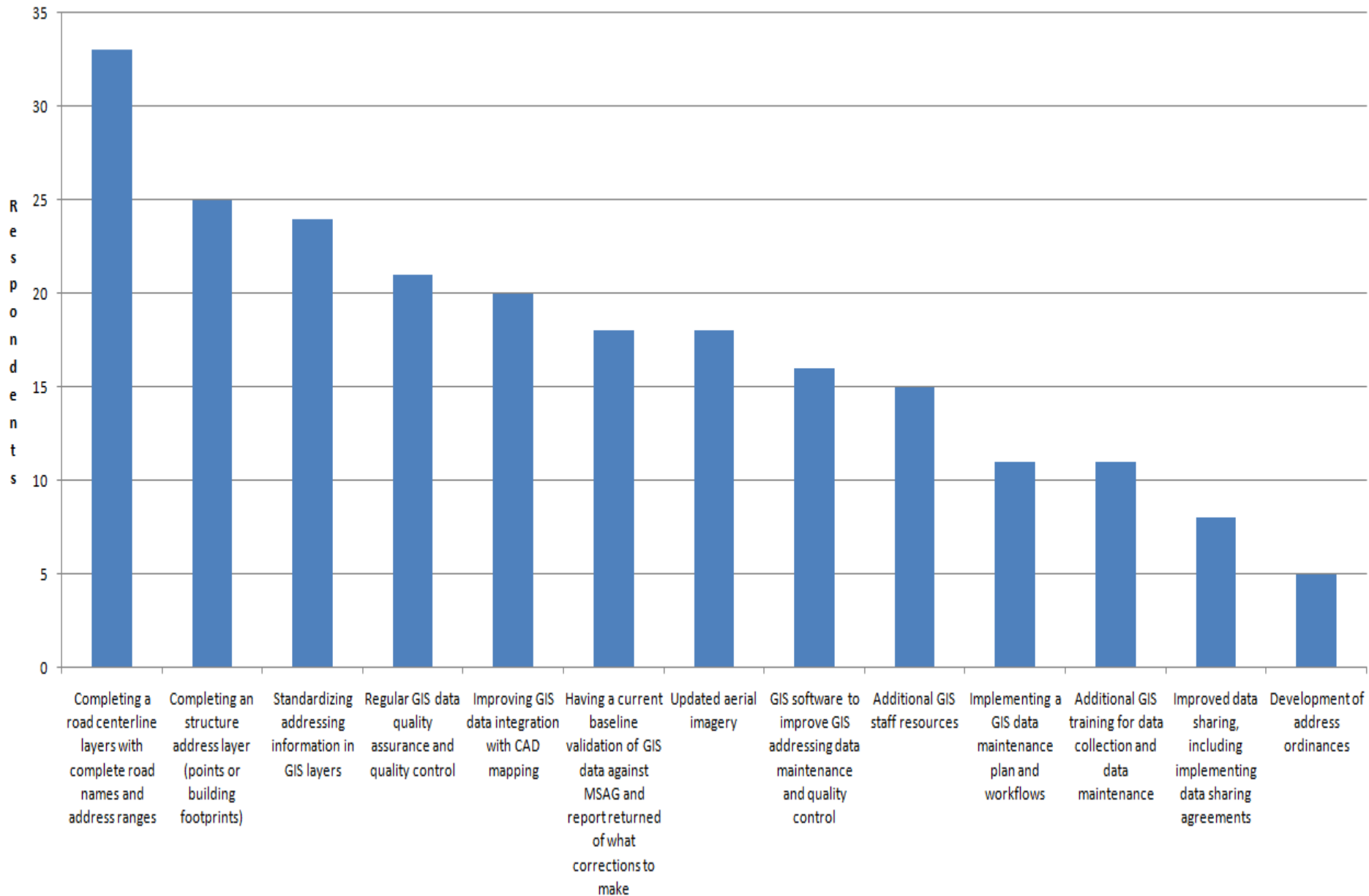


# 9-1-1 GIS Survey

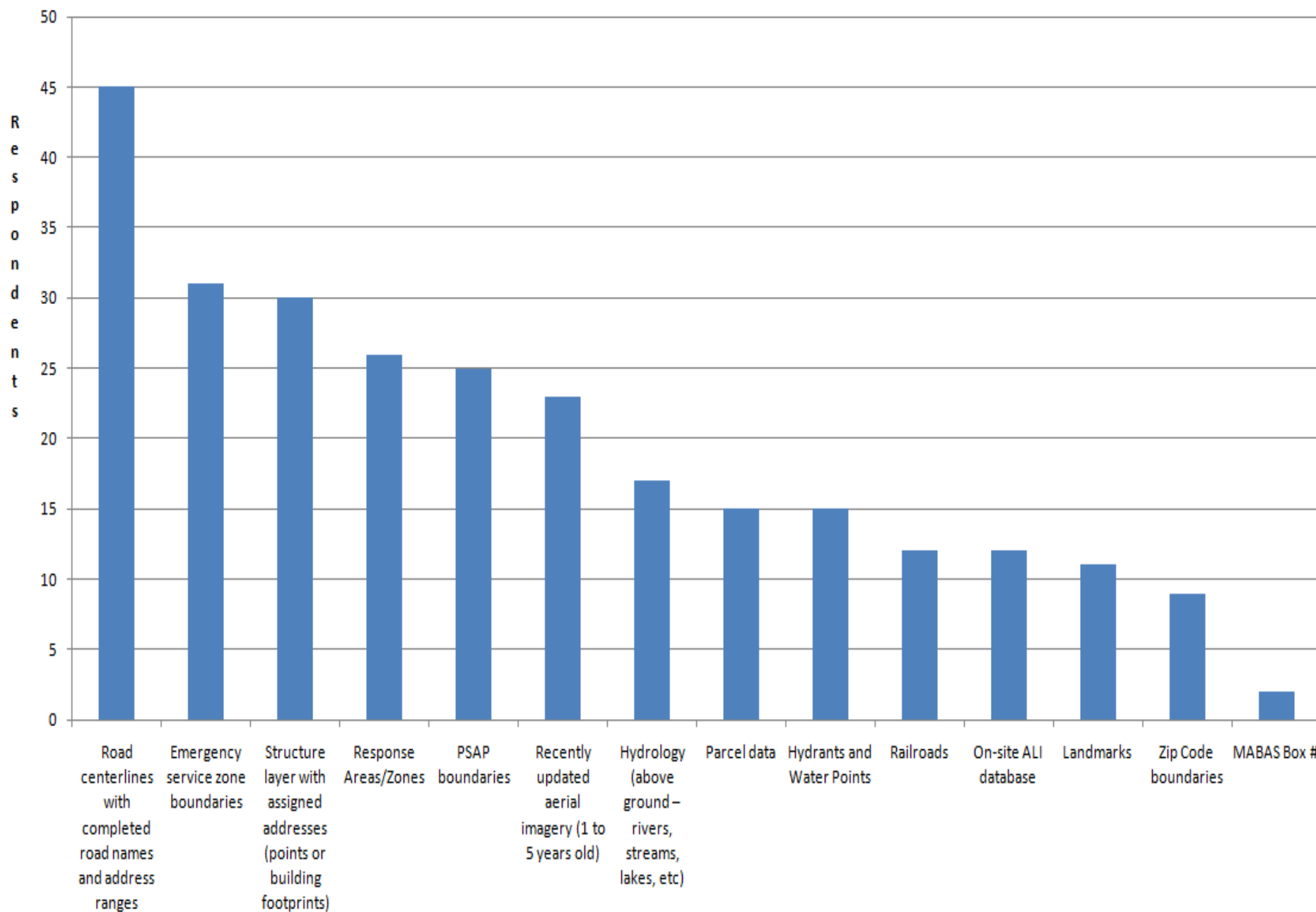
What are the reasons for not utilizing GIS for your public safety organization?



Understanding you may already have some of these items within your operation, please rank the following based on what would provide you the most additional value? (Where Highest Ranking Was Selected)



## Which of the following GIS layers are the most critical for your public safety organization?



# Project Benefits

- ◆ Enterprise system for integrated 9-1-1 GIS datasets across the state
- ◆ Data interoperability across jurisdictions – integrated datasets
  - Provide opportunity to share data today
- ◆ Additional quality control and reporting for local GIS data
- ◆ Edge-matching and discrepancy resolution of GIS data across jurisdiction boundaries
- ◆ ‘Gap-fill’ in areas to get to a baseline level of data across the State
- ◆ 9-1-1 GIS Database will provide the data to ESInet providers for ECRF/LVF in NG 9-1-1

# Next Steps

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- ◆ Final call for GIS surveys
- ◆ Developing Memorandum of Agreements (MOA) and Data Sharing Agreements
- ◆ Drafting Initial Database Standards
- ◆ Forming Initial System Requirements
- ◆ Planning Future Community Outreach

# More Information

- ◆ [www.michigan.gov/911GISGrant](http://www.michigan.gov/911GISGrant)
- ◆ [www.michigan.gov/snc](http://www.michigan.gov/snc)
- ◆ Harriet Miller-Brown
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  - 517-241-0080
- ◆ Laura Blastic
  - [blasticl@michigan.gov](mailto:blasticl@michigan.gov)
  - 517-373-7910



# Questions

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Open Discussion